

WE CLAIM:

1. An improved communication system comprising a customer premises equipment connected to a data network via a network connection, the customer premises equipment being operable to communicate with the data network when configured with a client network address, the customer premises equipment being operable to issue configuration messages to a configuration server connected to the data network to retrieve the client network address from the configuration server, the improvement comprising:
 - a temporary configuration server for responding to configuration messages from the customer premises equipment before the network connection is capable of connecting the customer premises equipment to the data network.
2. An improved communications system as claimed in Claim 1 wherein the network connection comprises a communications device for connecting the customer premises equipment to a local network, the local network being connected to the data network via a network interconnection device.
3. An improved communications system as claimed in Claim 2 wherein the temporary configuration server resides in the communications device.
4. An improved communications system as claimed in Claim 2 wherein the temporary configuration server resides in the network interconnection device.
5. An improved communications system as claimed in Claim 2 wherein the communications device includes a cable modem, the local network includes a cable network and the network interconnection device includes a cable modem termination system.
6. An improved communications system as claimed in Claim 5 wherein the cable network is a bi-directional cable network.
7. An improved communications system as claimed in Claim 5 wherein:

the local network further includes a general switched telephone network;
the cable modem includes a telephone connection to the general switched
telephone network; and

5 the network interconnection device includes a telephony remote access
concentrator for sending messages from the cable modem to the data network.

8. An improved communications system as claimed in Claim 2 wherein:

the local network includes a network of the type selected from the group
consisting of: ethernet and token ring;

5 the communications device includes a network adapter for the selected
network type;

the network interconnection device includes a cable modem connected to a
cable network and a cable termination system connected to the data network.

9. An improved communications system as claimed in Claim 8 wherein the
temporary configuration server includes a plurality of temporary network addresses with
which to respond to configuration messages from a plurality of customer premises
equipment.

10. An improved communication system as claimed in Claim 1 wherein the
configuration server is a dynamic host configuration protocol (DHCP) server.

11. An improved communication system as claimed in Claim 1 wherein the network
address used by the customer premises equipment is an Internet protocol (IP) address.

12. An improved communication system as claimed in Claim 1 wherein the
temporary configuration server responds to configuration messages with a temporary
network address.

13. An improved communication system as claimed in Claim 12 wherein the temporary configuration server responds to configuration messages with a lease time for setting a time limit for the temporary network address.

14. An improved communication system as claimed in Claim 13 wherein the lease time is less than 10 seconds.

15. An improved communication system as claimed in Claim 1 wherein the data network includes a connection to the Internet.

16. A cable modem for providing a customer premises equipment with access to a configuration protocol server connected to a data network over a broadband coaxial cable medium, the data network having an interface to the broadband coaxial medium at a head-end of the broadband coaxial medium, the cable modem comprising:

5 a cable input/output interface for communicably connecting the cable modem to the broadband coaxial cable medium;

a data input/output interface for communicably connecting the cable modem to the customer premises equipment; and

10 a temporary configuration protocol server for responding to configuration messages from the customer premises equipment before the cable modem is capable of connecting the customer premises equipment to the data network.

17. A cable modem as claimed in Claim 16 wherein the configuration protocol server is a dynamic host configuration protocol (DHCP) server.

18. A cable modem as claimed in Claim 16 wherein the temporary configuration protocol responds to configuration messages with a temporary network address.

19. A cable modem as claimed in Claim 18 wherein the temporary configuration protocol responds to configuration messages with a lease time for setting a time limit for the temporary network address.

20. A cable modem as claimed in Claim 19 wherein the lease time is less than 10 seconds.

21. A cable modem as claimed in Claim 19 wherein the cable modem configuration protocol client declines to renew the temporary network address when the cable modem is capable of connecting the customer premises equipment to the data network.

22. A cable modem as claimed in Claim 16 wherein the data network is connected to the Internet.

23. A method for ensuring a connection to a configuration protocol server on a data network by a customer premises equipment via a network connection, the method comprising the steps of:

issuing a request for a customer premises equipment network address from the customer premises equipment to the configuration protocol server via the network connection;

the network connection determining whether a connection can be made to the configuration protocol server, and if not, responding to the customer premises equipment by sending a temporary network address to the customer premises equipment.

24. A method as claimed in Claim 23 further comprising the step of sending a lease time for the customer premises equipment network address limiting the time of validity of the temporary network address.

25. A method as claimed in Claim 24 further comprising the steps of:

issuing a request to renew the temporary network address when the lease time expires; and

5 the network connection determining whether a connection can be made to the configuration protocol server, and if not, responding to the customer premises equipment by sending an acknowledge message.

26. A method as claimed in Claim 25 further comprising the steps of:

when the network connection determines that the connection can be made to the configuration protocol, the network connection sending a NACK message declining to acknowledge the request to renew the temporary network address;

5 the customer premises equipment receiving the NACK message and sending a request for the customer premises equipment network address; and

the network connection communicating the request for the customer premises equipment network address to the configuration protocol server.